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THEATER AIRLIFT: ARE WE REALIZING ITS FULL POTENTIAL?

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ABSTRACT

TITLE: Theater Airlift: Are We Realizing Its Full Potential?

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The transfer of theater airlift assets from the Military Airlift Command (MAC) and the Air Mobility Command (AMC) to the theater commanders in 1992 and 1993 was an appropriate reallocation of forces. However, there is more to theater airlift than just accepting the aircraft. The key to successful airlift operations is utilization of an effective airlift management system. Because the theaters had not controlled airlift since 1974 and therefore initially lacked any substantial expertise in theater airlift, they essentially tried to "construct" their own airlift system rather than "duplicate" the system that AMC utilizes. As a result, theater airlift has floundered and several issues have emerged regarding command and control capabilities, en route support capabilities, major command relationships, and theater airlift doctrine. To alleviate the current problems that exist regarding theater airlift and to help realize the full potential of theater airlift, the following actions should be taken: 1) establish deployable "enhanced" Airlift Control Elements (ALCEs) in each theater which are managed by the theaters instead of AMC, 2) embrace the "seamless" logistics system concept and implement it in each theater, and 3) update and revise theater airlift doctrine to blend with the post-Cold War strategy of U.S. military forces.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Mark R. Zamzow is a senior pilot with over 3000 hours of flying time. Both of his operational flying assignments have been in the C-130 aircraft and include five and a half years at Dyess Air Force Base, Texas and three years at Yokota Air Base, Japan. His positions within those wings included instructor pilot, evaluator pilot, special operations low level (SOLL) pilot, command post duty controller, chief of wing combat operations, squadron operations officer, squadron commander, and deputy operations group commander. In addition, his overall airlift experience includes a three year tour at Headquarters Military Airlift Command (MAC), four 80-day deployments in the C-130 aircraft to Europe with the 774th Tactical Airlift Squadron, and participation in large scale exercises to include Red Flag, Team Spirit, Reforger, and Cope Thunder. Following his graduation from the Air War College, Colonel Zamzow will serve as deputy commander for the 437th Operations Group at Charleston AFB, South Carolina.

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CHAPTER I

INTRODUCTION

The C-130s and their crews really should get the credit for their participation in the "Hail Mary," because the "Hail Mary" itself will go down in history as a work of tactical genius. The C-130s need to be recognized as having had a significant part.¹

Major General Vernon J. Kondra,
Deputy Chief of Staff for Operations and Transportation
Headquarters, Military Airlift Command

Despite the overwhelming success of U.S. forces in the Persian Gulf War and the associated contributions of the theater airlift fleet, there still exist significant weaknesses within theater airlift.² At the time of the war against Iraq, theater and strategic airlift aircraft were part of the Military Airlift Command (MAC). By 1993 however, most theater airlift aircraft (C-130s, C-27s, C-9s, C-21s, and C-12s) were moved out of MAC, later Air Mobility Command (AMC), to the geographic theater commands.³

The outcome of this realignment (even though the realignment was in this author's mind the appropriate move) has been a theater airlift system which is less efficient than it was just a few short years before. Significant issues involving command and control, aerial port capabilities, transient aircraft maintenance, theater airlift doctrine, and major command (MAJCOM) authority over theater airlift aircraft have surfaced since the force structure changes. Improvements in the theater air mobility system must be made now or there is a significant risk that missions may fail, national objectives may not be met, and American lives as well as the lives of citizens within our allied nations may be lost.

Air mobility is a complicated issue. It involves multiple dimensions of doctrine, strategy, capabilities, and command relationships. This paper cannot address every important issue relating to the mobility system and airlift as a whole, but will instead concentrate on how the USAF can quickly and effectively improve *theater airlift* given the operational, doctrinal, and organizational constraints that exist today.

The analysis will first assess the status of the theater airlift fleet in the 1990s to include the airlift delivery concept, aircraft capabilities, current force structure, mission management and support, and recent operational missions. Next, the specific theater airlift issues needing resolution will be addressed. Finally, recommendations for improvement of theater airlift will be detailed.

Before moving on, further clarifications on the scope of this paper are required. The objective of this report is to provide relevant ways to immediately improve theater airlift given the constraints of the current force structure, organizational alignments, and command relationships. Therefore, in order to attain that objective, the following topics will be regarded as “constant” in the foreseeable future despite being controversial within some sectors of the military community.

1. The C-130 force will continue to be aligned under Air Combat Command (ACC), Pacific Air Forces (PACAF), and United States Air Forces Europe (USAFE) instead of Air Mobility Command (AMC).
2. The composite wing concept (which aligns squadrons of different type aircraft under one wing at a specific location) will continue to be utilized in the USAF.
3. The capabilities and mission of the C-130 will not appreciably change despite minor avionics and engine upgrades.

The Air Force has reached an important crossroads in the realm of theater airlift. With the myriad of organizational, operational, and employment changes that have occurred since 1992, it

is imperative to improve theater airlift. This research paper will show how theater airlift can realize its full potential.

CHAPTER II

STATUS OF THE THEATER AIRLIFT FLEET IN THE 1990s

Theater airlift is one of those functions that people always tend to take for granted because it continually achieves success without much fanfare. This success became more evident in recent years as the C-130 is increasingly used as a military instrument to achieve national objectives. In the former Yugoslavia, C-130 airland and airdrop missions were a principle source of food for the Bosnians.⁴ In Rwanda, C-130s again successfully conducted airland and airdrop resupply missions to war refugees.⁵ Most recently in Japan, PACAF C-130s shuttled relief supplies from Okinawa and Tokyo to Kobe's earthquake victims.⁶

The draft copy of Joint Publication 3-17, "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations," defines theater airlift as:

That airlift assigned combatant command (command authority) of a combatant commander other than USCINCTRANS, which provides air movement and delivery of personnel and equipment directly into objective areas through air landing, airdrop, extraction, or other delivery techniques; and the air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements.⁷

Due to the nature of the enemy threat, theater airlift aircraft may need to conduct low-level (300 foot flight above the ground) ingress to or egress from the objective area. HQ AMC estimates that, during a military operation, five to ten percent of all theater resupply movements (i.e., land and air) would be done by air. Of the air portion, ten percent would be by airdrop.⁸

Although the versatility and reliability of theater airlift is well-recognized in peacetime missions and contingency operations, there is much more to understanding theater airlift than just

seeing the results. This section provides the background necessary to understand the nature of theater airlift and the complicated issues that face it today.

The Airlift Delivery Concept

The direct delivery airlift concept, as described by Lieutenant Colonel Charles E. Miller in his book "Airlift Doctrine," accurately portrays the fundamental utilization of today's airlift aircraft.⁹

The figure shown below illustrates the concept.¹⁰

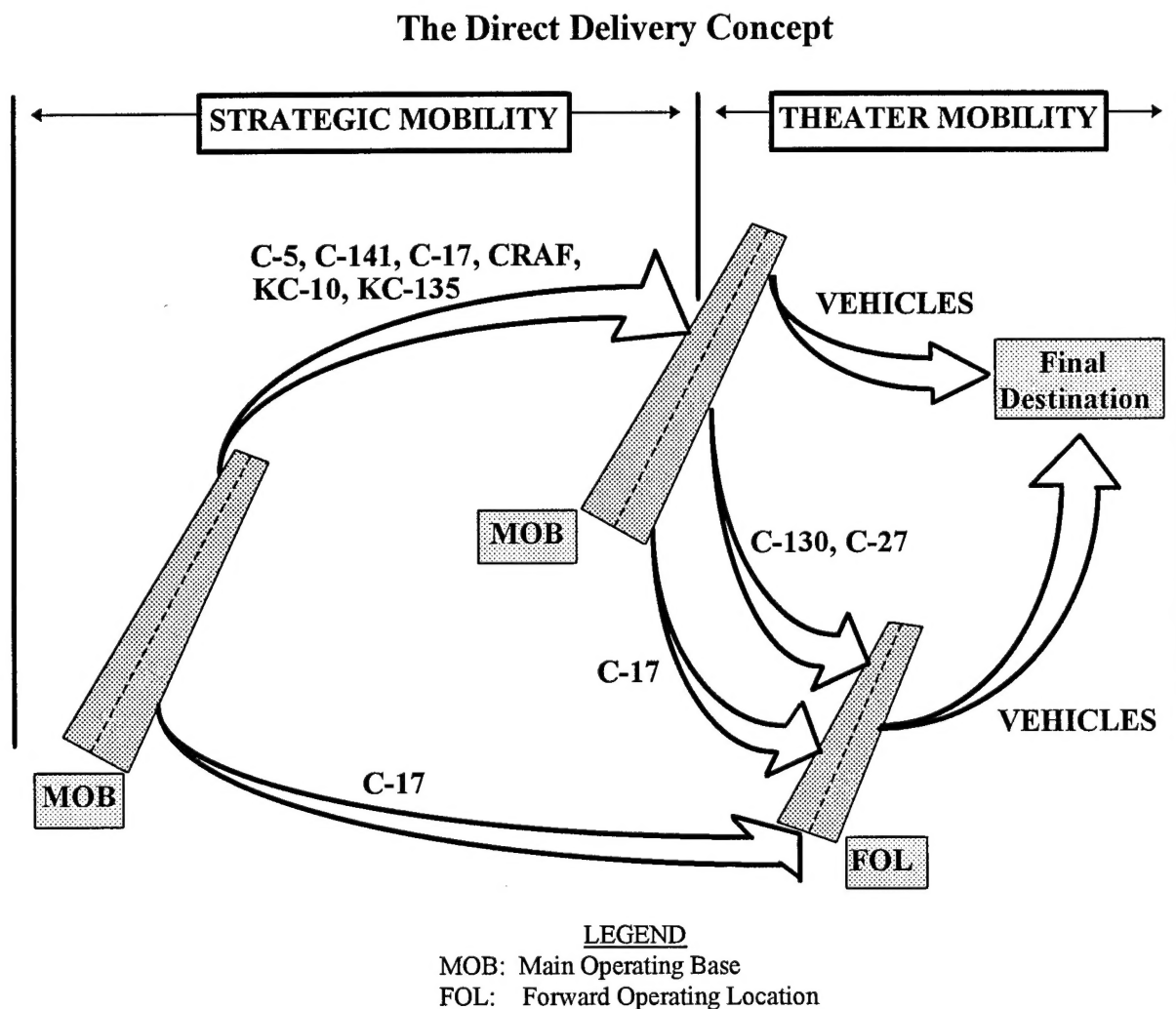


Figure 1

Strategic or intertheater airlift is the air movement of cargo or personnel from one main operating base (MOB) in one theater to another MOB in another theater. This role is normally performed by the C-5, C-141, C-17, KC-10, KC-135, or the Civil Reserve Air Fleet (CRAF) and managed by AMC. Once an aircraft lands within the theater of operations, the cargo and personnel are moved by theater mobility assets to include trucks, buses and other vehicles or theater airlift aircraft such as the C-130, C-27, or the C-17.¹¹ This theater airlift movement is managed by the Commander in Chief for that specific theater of operation.¹²

Until the Initial Operating Capability (IOC) of the C-17 was declared on 17 January 1995, the USAF did not have an aircraft which could truly perform both the strategic and theater airlift roles.¹³ With C-17s now functioning in an operational role, AMC has an air-refuelable aircraft capable of carrying out-sized cargo (items too large to fit on a C-141 or a C-130) directly to short, unimproved, 3000 foot runways.¹⁴ As Figure 1 illustrates, the C-17's unique characteristics finally enable air mobility planners to incorporate direct air delivery from one theater's MOB to another theater's forward operating location (FOL) which is often a runway shorter than 5000 feet in length. Of course, the C-17 or any other airlift aircraft could be tasked to remain within the theater and perform the theater airlift role when agreed upon by AMC and the theater command.¹⁵

Type, Location, and Mission Capabilities of Theater Airlift Aircraft

Today's theater airlift assets include the C-130 Hercules, C-27 Spartan, the C-9 Nightingale, C-21 Learjet, and the C-12 Huron.¹⁶ The new C-17 Globemaster III is considered a strategic airlift aircraft because of its strategic capabilities, and is therefore assigned to Air Mobility Command (AMC) even though it has the capability of landing on short, unimproved airstrips and

performing tactical airdrops.¹⁷ Special mission C-130 aircraft such as the MC-130 Talon and the AC-130 Spectre are considered special operations aircraft rather than theater airlift aircraft.¹⁸

The basic cargo version of Lockheed's C-130 is the most versatile theater airlifter. It can carry 92 passengers or approximately 47,000 pounds of cargo into unimproved airstrips as short as 3000 feet. This aircraft can airdrop 64 paratroopers or as much as 35,000 pounds of cargo to a drop zone through personnel, heavy equipment (HE), or container delivery system (CDS) airdrops. The C-130 can also perform an aeromedical evacuation role and carry 74 litters.¹⁹ Only 199 of the 508 total USAF C-130s are part of the active duty force.²⁰ These C-130s are assigned to ACC (Pope AFB, Moody AFB, Little Rock AFB, Dyess AFB, and Howard AFB), PACAF (Yokota AB and Elmendorf AFB), and USAFE (Ramstein AB).²¹

There are only ten C-27A aircraft in the USAF inventory, all of which are stationed at Howard AFB as part of ACC.²² This short takeoff and landing (STOL) medium transport performs only in the airland role. It can carry 34 passengers or 14,850 pounds of cargo to short (2000 feet), unimproved dirt landing strips.²³

As the primary USAF aeromedical evacuation aircraft, the C-9 can accommodate up to 40 litter or ambulatory patients plus a medical staff of five.²⁴ USAFE has a squadron of C-9s at Ramstein AB while PACAF operates the Pacific aeromedical mission with three planes at Yokota AB. The CONUS based C-9s are located at Scott AFB under operational control of AMC.²⁵

The remaining theater airlift aircraft, the C-21 and the C-12, are primarily used for rapid movement of key personnel or light, hand-loaded cargo. The C-21 is the military version of the Learjet and can carry eight passengers or 3153 pound of cargo. A military version of the Super King Air, the C-12 also has a capacity of eight passengers but can carry 4764 pounds of cargo.²⁶

The C-21 and C-12 can also greatly assist the theater in peacetime or contingencies in an emergency aeromedical evacuation role.²⁷ These aircraft are assigned to ACC (Howard AFB), PACAF (Yokota AB, Elmendorf AFB, and Osan AB), and USAFE (Ramstein AB). However, just as in the case of the C-9s, all CONUS based C-21 and C-12 aircraft are assigned to AMC.²⁸

The only theater airlift aircraft that can operate to short, unimproved runways common at the FOLs are the C-130 and C-27. The C-9, C-21, and C-12 must operate from MOBs or FOLs with hard-surfaced, long runways.

This combination of C-130, C-27, C-9, C-21, and C-12 aircraft give the theater commanders tremendous versatility in managing cargo and passenger movement. The types, quantities, and locations of each of these assets appropriately match the needs of each theater for effective utilization under any scenario.

Airlift Management Systems and Mission Support Units

Prior to 1992, when theater airlift forces were under operational control of MAC, there was a complete airlift management system which controlled missions to the final airlift destination within the theater. This was true for both the cargo/passenger missions as well as the aeromedical missions (although a separate system exists for the aeromedical missions).²⁹ After the divestiture of theater airlift assets to the specific theaters however, the theater airlift system disintegrated. This appears to be due to a lack of understanding by the theaters regarding airlift management, a need to drawdown the theater manpower authorizations (as part of the total force structure reduction), and as a money saving avenue regarding operational expenses.³⁰

The recently planned (but unexecuted) airdrop of U.S. forces into Haiti by C-130 and C-141 aircraft for Operation Uphold Democracy in 1994 exposed multiple theater airlift deficiencies.³¹ These included late involvement by theater airlift personnel into the planning process, unclear

command and control structure or chain of command for the airlift operations, and no central point of contact for the planned airland missions (which were to follow the airdrop phase).³²

Today ACC, PACAF, and USAFE have theater airlift systems that are merely a phantom of what existed three years earlier under AMC or MAC. As a consequence, theater airlift is not as responsive or reliable as it used to be.³³ In short, although the number of aircraft, size and location of flying squadrons, and mission has not changed with the 1992 transfer of aircraft, everything else that supports theater airlift has changed.

In order to lay the foundation for a comparison between the existing airlift management systems of the theaters, it is most appropriate that this author describes the AMC system first. Air mobility has evolved tremendously and achieved great success since the establishment of MAC in 1966.³⁴ Another critical milestone for the airlift community was 1974: the year all theater airlift forces were transferred from the theater commanders into MAC to consolidate all airlift under a single manager.³⁵

Strategic airlift management in AMC today remains based on the concept of centralized control and decentralized execution.³⁶ However, the advent of improved computer and communications systems along with the deactivation of the airlift divisions in Hawaii and Germany in 1992 has shifted more of the control aspect toward AMC Headquarters.³⁷

At the center of this system is the Tanker Airlift Control Center (TACC) within HQ AMC at Scott AFB, Illinois. It provides planning for and monitors execution of all AMC missions. The TACC controls missions through 28 support units which include command posts (CPs) at each of its 14 CONUS wings, 13 overseas Air Mobility Support Squadrons (AMSSs), and two deployable Air Mobility Operations Groups (AMOGs).³⁸

What makes the AMC system work is effective communications equipment, reliable

computer systems (hardware and software), efficient aircraft maintenance teams, capable aerial port facilities, and streamlined procedural guidance. For missions that transit a location where there is no AMC mission support unit, the aircrew can call the TACC or any one of the 28 network nodes to update mission data.³⁹ For single (or even some multiple) aircraft missions that transit locations where there is no AMC aircraft maintenance personnel or aerial port capability, AMC could deploy its own specialized support teams or contract civilian services.

There are two critical computer systems that provide the connectivity of the whole system. The Global Decision Support System (GDSS) compiles mission data such as mission number, itinerary, aircraft type, and diplomatic clearances. The cargo and passenger data is maintained in the Consolidated Aerial Port System (CAPS) computer system and is managed by the aerial port personnel.⁴⁰ Overall, these two independent systems interconnect worldwide to give every terminal real-time access regarding any aspect of every mission. Future plans will integrate both of these computer systems into one complete mobility system which would enable nodes to access not only the aircraft and mission information, but also all maintenance and cargo information to include every single manifested piece of cargo in the back of the aircraft!⁴¹

AMC has an airlift management capability for handling the unexpected mission support needs as well: AMOGs which are positioned at both Travis AFB, California, and McGuire AFB, New Jersey. Each AMOG contains an operations squadron (which includes tactics, current operations, intelligence, and weather flights), a control squadron (which includes command post and mission management flights), an aerial port squadron (for cargo and passenger handling), a maintenance squadron (which has personnel qualified to maintain every AMC aircraft), a communications squadron, and a combat camera squadron.⁴²

Under AMC's current concept of operations, an entire AMOG or any single portion of it may be deployed at a moments notice to any world "hot spot" to manage strategic airlift. Very often these resources will be deployed as a Tanker Airlift Control Element (TALCE) to work at an independent location.⁴³ During contingencies, these teams may also be deployed as an Air Mobility Element (AME) to coordinate strategic airlift directly with the theater's Air Operations Center (AOC) while remaining operationally assigned to AMC.⁴⁴ Examples of such situations include a TALCE deployment to Haiti (to support inbound U.S. forces), a TALCE deployment to Rwanda (to support humanitarian aide to refugees), or TALCE and AME deployments to Saudi Arabia (to manage inbound forces at a main operating base and to assist theater planning within the AOC respectively).

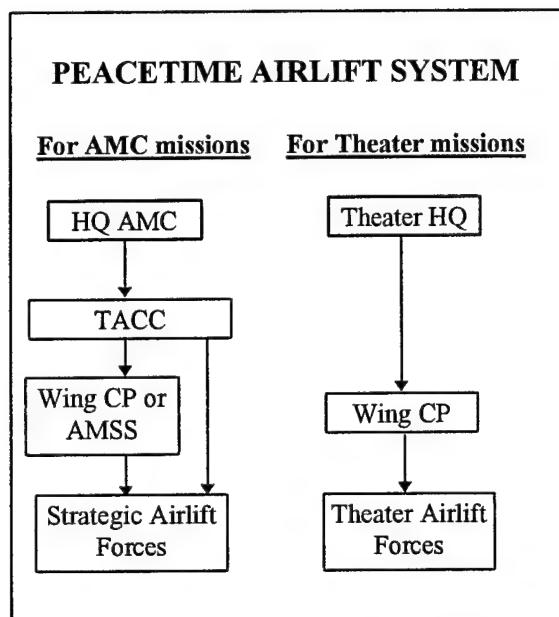
Once the TALCE deploys to a location, it will only manage AMC airlift missions, not theater airlift missions. For example, if, during a contingency, a C-141 aircraft flies F-15 engines to a main operating base (MOB) in Saudi Arabia for use by a "front line" deployed fighter squadron, AMC considers the mission complete once that cargo is "in theater". The fact that those engines must be moved from the MOB to the forward operating base (FOB) by C-130s is not recognized by AMC. That would be a theater airlift mission and would therefore not be managed by AMC's TALCE personnel. Thus the theater commander must have his own theater airlift management system as well to manage such situations.

The theater airlift management systems of today are inadequate. AMC has allowed the theaters access to the GDSS for mission data. So, the theater headquarters command center (e.g. HQ PACAF, HQ USAFE, etc.) and the wing command posts at each theater location that serves as a home unit to theater airlift aircraft (e.g. Yokota AB in PACAF, Ramstein AB in USAFE, etc.) have the system.⁴⁵ Unlike AMC, the theaters do not maintain any deployable airlift

management capability similar to the TALCE. If theater C-130s must deploy to a site where AMC is not managing airlift, those C-130s must bring their own ad hoc command and control team, their own aerial port team, and their own aircraft maintenance teams.

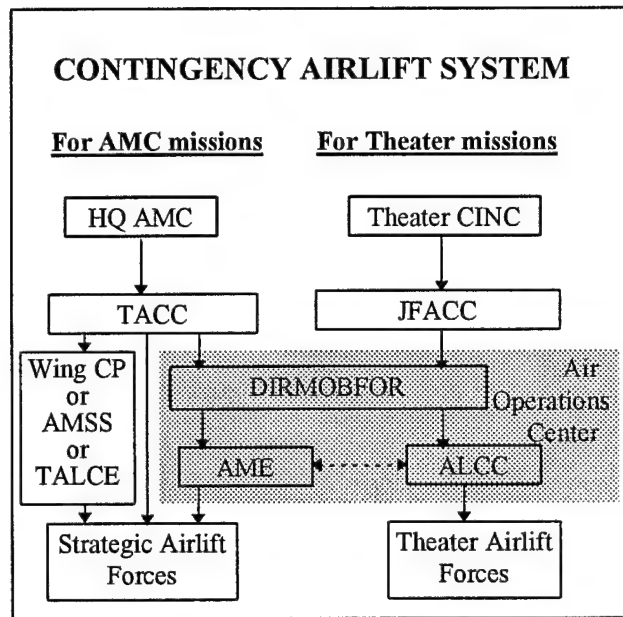
The only capability that is permanently assigned in all the theaters as well as within AMC is the combat control teams (CCT). These are two or three man teams that are deployed into forward areas to control air traffic and establish drop zones or landing zones for airlift aircraft.⁴⁶

The figures below summarize the command and control systems that AMC utilizes for its strategic airlift missions and the theater commands use for their theater airlift missions.⁴⁷



LEGEND
 —————> Operational Control

Figure 2



LEGEND
 —————> Operational Control
 <-----> Direct Coordination

Figure 3

The wiring diagram for the Peacetime Airlift System (figure 2) reflects how AMC missions and theater airlift missions are independent operations. For example, if a PACAF C-130 from Yokota AB were flying a PACAF mission to South Korea, it would be managed by PACAF as a

theater mission. If an AMC C-5 from Travis AFB was flying an AMC mission to South Korea, it would be managed by AMC's TACC. The only exception would be if a theater owned aircraft (e.g. a Yokota C-130) was flying an AMC mission anywhere in the world (keeping in mind that AMC receives a "loan" of 50 C-130s every day from the theaters), then that C-130 would be managed as an AMC mission not a theater mission.⁴⁸

The wiring diagram for the Contingency Airlift System (figure 3) shows that there is some interaction between the strategic airlift managers (i.e. AMC missions) and the theater airlift managers (i.e. theater missions). This interaction occurs within the theater's Air Operations Center (AOC): the section that integrates all air activities for the Joint Forces Air Component Commander (JFACC) within the theater by managing current operations, plans, and liaison with all participating services (including allied countries).⁴⁹

The Director of Mobility Forces (DIRMOBFOR) is normally a senior officer with expertise in air mobility operations selected for duty by the theater's Air Force Component Commander (AFCC) after review of nominations from the theater commands as well as AMC.⁵⁰ The DIRMOBFOR coordinates strategic *and* theater airlift missions which are within the theater of operations by managing two organizations: the Air Mobility Element (AME) and the Airlift Coordination Cell (ALCC).⁵¹ The AME is AMC's deployed command and control team which manages AMC's strategic airlift missions when they enter the theater. The ALCC on the other hand manages theater airlift missions within the theater of operations by working for the JFACC through the DIRMOBFOR.⁵²

As an example, if a C-141 flew from McGuire AFB to Saudi Arabia to deliver cargo during the Persian Gulf War, the DIRMOBFOR and AME would manage that aircraft because it was on an AMC mission. Again however, there is an exception. If that same C-141 has a change of

operational control (CHOP) to the theater CINC to perform an airdrop mission, the JFACC, DIRMOBFOR, and ALCC would assume control of that aircraft and crew.

Recent History as a Forecast of Future Taskings.

The operational tempo for United States military forces has remained higher than expected ever since the end of the Cold War. Of course, the airlift community has been utilized extensively due to the short reaction time required to respond to dozens of situations.

The strategic and theater airlifters were key participants in force projection events from mid-1990 through 1994 to include the following.

1. The Persian Gulf War of 1991 (Operations Desert Shield and Desert Storm).
2. Humanitarian assistance to the Kurds from 1991-1994 (Operation Provide Comfort).
3. Humanitarian relief in Bangladesh after Cyclone Marion in 1991 (Operation Sea Angel).
4. The evacuation of U.S. personnel from Clark Air Base and Subic Bay Naval Station in the Philippines after the 1991 eruption of Mount Pinatubo.
5. Humanitarian relief to the new Commonwealth of Independent States in 1992 and 1993 (Operation Provide Hope).
6. Disaster relief to southern Florida following Hurricane Andrew in 1992.
7. Disaster relief to Guam after 1992's Typhoon Omar.
8. Disaster relief to Hawaii following Hurricane Iniki in 1992.
9. Airlift and airdrop of humanitarian relief supplies to Bosnia-Herzegovina from 1993 to 1995 (Operation Provide Promise).⁵³
10. Demobilization of Angolan military forces with 326 sorties by USAF C-130 aircraft in 1992 (Operation Provide Transition).
11. Deployment of US forces to Saudi Arabia for enforcement of a ban on Iraqi flights below the 32nd parallel in 1993 (Operation Southern Watch).
12. Over 3100 humanitarian relief missions from Kenya to Somalia by USAF C-130s from 1992 to 1993 (Operation Provide Relief).
13. UN sanctioned military intervention to safeguard delivery of food in Somalia from 1992 to 1994 (Operation Restore Hope).
14. Movement of 334 US Army personnel and associated equipment from Germany to Macedonia to support UN objectives in the former Yugoslav states in 1993.
15. Disaster relief to the Los Angeles area following the earthquake in January of 1994.⁵⁴
16. Evacuation of American citizens and humanitarian assistance to strife-torn Rwanda in 1994 (Operation Support Hope).⁵⁵

17. The military effort to restore the legitimate government of Haiti in 1994 (Operation Uphold Democracy).⁵⁶
18. The deployment of US forces to Saudi Arabia in response to threatening actions by Iraq in 1994.⁵⁷

It is logical to conclude that the post-Cold War world will most likely continue at this relatively high operational tempo. Increased nationalism in many parts of the world, the heightened involvement of U.S. forces in regional disputes, and of course the usual array of natural disasters such as earthquakes and hurricanes will be the focus of American military efforts in the foreseeable future.⁵⁸

It is also rational to assume the following would be true: if the operational tempo remains this high, and the force structure continues to level off in 1995, there may be so many military actions in a given year that due to the limitations of the air mobility force, not all national objectives could be supported. These prospects accentuate the importance of resolving several critical theater airlift issues.

CHAPTER III

THEATER AIRLIFT ISSUES

The proper use of tactical resupply missions and theater airlift aircraft is critical to theater operations in today's air force. Ground forces cannot survive in the forward battle zones without resupply from surface transportation or tactical aircraft via airland or airdrop operations. Consequently, in this era of increasing joint operations for our military forces, commanders of all services must become familiar with the limitations and capabilities of theater airlift.

The draft copy of proposed Joint Publication 3-17, "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations," will serve as the basis for future theater airlift employment. It identifies the central problem of theater airlift planning as "maximizing theater airlift support to immediate requirements while also maximizing its contribution to the long term requirements of the overall campaign."⁵⁹ The way to solve this problem is establishment of a superior mission management system which accomplishes four major tasks: proper reflection of theater priorities, careful monitoring of airlift capacity, properly supported and tasked missions, and transmission/upchannelling of appropriate mission data.⁶⁰

A draft copy of Joint Publication 4-01, "Joint Doctrine for the Defense Transportation System," specifies that "USTRANSCOM will interface, coordinate, and if requested by theater CINCs, extend procedures, policies and systems that facilitate origin-to-destination capabilities."⁶¹

The publication goes on to state the following:

Theater commanders may establish their own JMC or Joint Movement Center to coordinate employment of all modes of theater transportation to support the theater concept of operations. The JMC should also be the single coordinator of strategic movements between the combatant commander and USTRANSCOM and should oversee the execution of theater transportation priorities.⁶²

The guidance for the entire Air Force is clear: develop and manage a seamless logistical transportation system in which strategic and theater mobility assets interact with ease and reliability. The logistics, mobility, and transportation communities are currently moving in that direction. In fact, a "Theater Logistics Support General Officer Steering Committee" is looking at ways to enhance theater logistics through evaluation of the theater logistics process, development of total asset visibility, and refinement of the assorted material distribution systems.⁶³

The Department of Defense (DoD) has already identified the core problem of the current transportation system as "fragmented traffic management throughout DoD."⁶⁴ DoD also recognizes that the weakest link in the system is the transition from peacetime to wartime operations.⁶⁵ Airlift is a significant part of this concept. In September 1994, DoD unveiled a plan to create a "seamless" transportation operation that would prioritize cargo so that the most important items would in fact be moved first. The keys to success would be use of new technologies which would enable managers to continually track and categorize cargo, improved databases used by the commercial sector which enable more efficient load plans, and employment of a single computerized billing system.⁶⁶

In order to properly accomplish the theater airlift mission and meet the "theater side" of this seamless operation, several key components must be properly developed and synchronized: command and control capabilities, en route support capabilities, major command relationships, and theater airlift doctrine. There are aspects of these four areas that have deficiencies or have received inadequate attention over time. It is these theater airlift issues that will be addressed within this section.

Issue #1: How much command and control capability does theater airlift need?

The theater commands must have a command and control system that mirrors those capabilities that have worked so well for AMC. AMC has drafted Command to Command Agreements with the theater commanders which identify what "airlift system" assets AMC will provide each theater so they could adequately manage theater airlift.⁶⁷ This includes real time access to GDSS, the foundation computer system for AMC's missions.⁶⁸ As a result, all these commands can appropriately manage their own missions as well as observe missions which impact their specific operations. When AMC updates their command and control network to more capable, logistical interfacing systems, the theater commands must also be upgraded.

Another aspect which the theaters lack is a deployable command and control capability such as AMC's AMOG and TALCE concepts. The theater's need such a capability because there is no guarantee that AMC will provide airlift to *all* theater airlift situations. If the scenario involves utilizing runways shorter than 7000 feet, only AMC's new C-17 aircraft would be able to provide airlift. Likewise, if strategic airlift has higher priority commitments than what the scenario's importance is considered, AMC may not provide airlift or support might be delayed. There may also be situations where the theater commander would prefer using only resources from his theater instead of from another command. Therefore it seems quite logical that the theater should maintain its own deployable airlift control unit for emergency situations.

At the present time, only ACC has deployable airlift command and control units while PACAF and USAFE have none.⁶⁹ However, these ACC units (a TALCE at Little Rock AFB and a TALCE at Dyess AFB) are deployed only when tasked by AMC's TACC to support AMC strategic airlift missions.⁷⁰

In the past under MAC, deployable theater command and control units were called Airlift Control Elements (ALCEs). For today's situation, it is true that an "ad hoc" ALCE could be developed from resources already assigned within the theater. However this would waste valuable time and all the support equipment such as communications gear, portable command post trailers, tents, portable computers/modems, and associated airlift management software may not be readily available. Additionally, designated personnel may not be properly trained to support a mobility tasking which may slightly differ from their normal operational duties.

A command post is the "eyes and ears" of the theater. A theater without a deployable command and control capability for theater airlift is gambling that everything will run perfectly at the forward location. That just doesn't always happen. The strategic airlift community recognized the value of deployable command and control. The applications are no different for theater airlift.

Issue #2: What deployable support capabilities should exist within each theater?

There is more to establishing a deployable theater airlift capability than just command and control. Aircraft maintenance, aerial port capacity, and air traffic control are also critical components. For AMC, their deployable TALCE has all these components within it.⁷¹ But ACC, USAFE, and PACAF do not control deployable teams with such complete capabilities.

Today's C-130 squadrons do maintain and frequently utilize a deployable maintenance repair team (MRT). These teams are always tailored to bring appropriate maintenance equipment and spare parts to satisfy the expected workload at deployed locations. Frequently exercised in peacetime, MRTs deploy for exercises and also to repair C-130s at locations where local USAF transient maintenance teams could not complete repairs.

Inadequate material handling equipment (MHE), such as forklifts to lift cargo pallets off aircraft and k-loaders to slide cargo pallets off aircraft, can greatly inhibit or stop cargo offload from C-130 aircraft or strategic airlift aircraft. In fact, a fork-lift is usually one of the first pieces of equipment airlifted into a forward operation -- there's no sense in flying other cargo into an airfield if it can't be taken off the aircraft! AMC's TALCEs have a deployable aerial port capability.⁷² But again, the theaters lack such a capability. Each theater C-130 group already has aerial port trained personnel within the Aerial Delivery Support Flight (ADSF), yet these personnel only occasionally deploy from home station.⁷³ Their normal function is to prepare equipment for airdrop training missions, load it on the aircraft, and recover it from drop zones. Charging the ADSFs with a mobility requirement would provide the final aspect of a deployable theater support capability.

The theaters do however already have their own CCTs assigned to them for airfield and drop zone control.⁷⁴ In peacetime, the CCTs frequently deploy to help C-130 aircraft train for airdrops or shortfield landings in forward regions. Their mobility requirement has long been acknowledged as a critical component of theater airlift in contingencies, operations other than war, and humanitarian missions. The theaters also have theater airlift liaison officers (TALOs) who deploy and coordinate airlift requests directly with ground forces.⁷⁵

The theaters need a capability similar to the TALCE in the form of an "enhanced" ALCE. For the theater this means a deployable unit consisting of a command and control element, aircraft maintenance team, and aerial port team, and combat control team. These components would give the theater commanders tremendous flexibility for any airlift related scenario that developed within the theater.

Issue #3: What should be the interaction between major commands in relation to theater airlift?

The USAF C-130 forces can potentially be deployed to any location in the world and therefore be "CHOPPED" to any theater commander. Just as with many other Air Force weapon systems, all C-130 units are expected to follow the same procedures and have the same capabilities. This is a fundamental concept of how the USAF utilizes its forces. It is also reinforced by the initial draft copy of Joint Publication 3-17 which states:

Theater airlift forces exist to support the plans, operations and priorities of the theater CINC, by operating air transport aircraft and ground support assets for all theater forces. Theater airlift forces have a dual identity; they are both air operating forces and they are an element of the logistics support system. Planning and organization of theater airlift forces should reflect this dual nature.⁷⁶

From 1974 to 1992, all C-130 forces resided under one command: MAC. It was the command responsible for organizing, training, and equipping all C-130 units and in the process insure they were "interchangeable" so they could fight together in the same theater.⁷⁷ Since the movement of the C-130s to the theaters, the oversight capability of the commands has become blurred.

Air Combat Command has been identified as the "parent" command for all USAF C-130 issues.⁷⁸ But PACAF, USAFE, the Air National Guard, and the Air Force Reserve all have their own C-130 squadrons and AMC still makes policy on broader airlift issues that affect the C-130 force by nature of the airlift mission. At the same time, AMC has a daily requirement to utilize (i.e., "borrow") 50 C-130s from the theater commanders to fly AMC airlift missions.⁷⁹

With so many major command relationships, the safety and overall well-being of the C-130 community and the theater airlift system are at risk. It has almost been three years since the C-130s have moved away from MAC and AMC, and the gaining commands have been trying diligently to make the transition smooth. Yet once again, because the theater airlift expertise has

not recently existed within these commands, it is a slow, educational process to recreate an appropriate theater airlift system and foster a good dialogue between the commands. This is why new guidance such as Joint Publication 3-17, Joint Publication 4-01, and the AMC/ACC Command to Command Agreement are such critical documents.

The problem also appears in the Air Operations Center of the theater commander during operations other than war or contingencies. The Joint Forces Air Component Commander (JFACC) and the Director of Mobility Forces (DIRMOBFOR) within the theater often have different views on how to manage theater airlift. The fact that C-130 forces work directly for the Theater Commander in times of war is nothing new. It has been that way since the middle of the Vietnam War.⁸⁰ What has complicated things is how to mesh theater airlift, strategic airlift, and all other air operations (to include other service's and other nation's air forces) into a smooth operation.

The appropriateness of this relationship between the DIRMOBFOR and the JFACC (as well as the entire theater mobility system) is still being debated in several forums.⁸¹ From 15-17 November 1994, key representatives from HQ USAF, HQ ACC, HQ AMC, HQ AFRES, and the ANG Bureau addressed the DIRMOBFOR concept, the roles of the AME and the ALCC, and the establishment of quick response packages within the theaters.⁸²

Although many issues remain unresolved, a modified command and control concept for theater airlift management is emerging. This alteration involves curtailing part of the DIRMOBFOR's role within the theater command and control structure. In order to better illustrate this change, the wiring diagram which described the current "Contingency Airlift System" (shown earlier as figure 3) is reprinted in the next paragraph as figure 4.⁸³

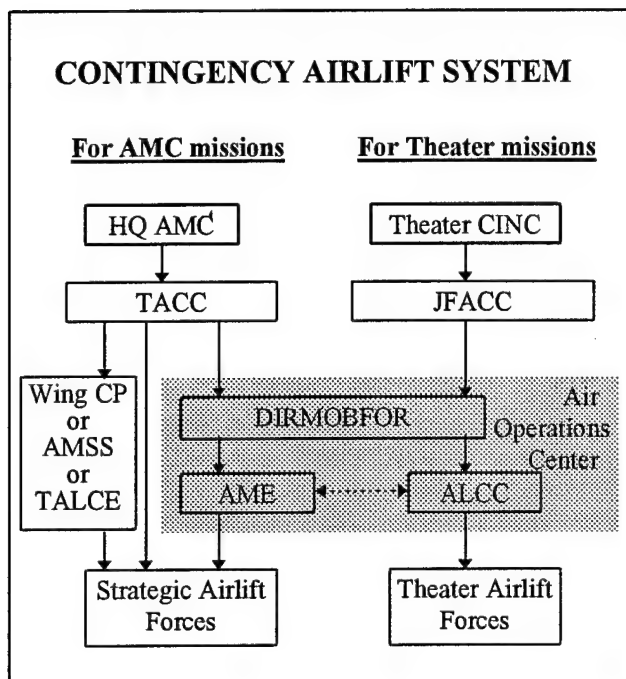


Figure 4

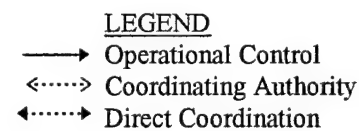
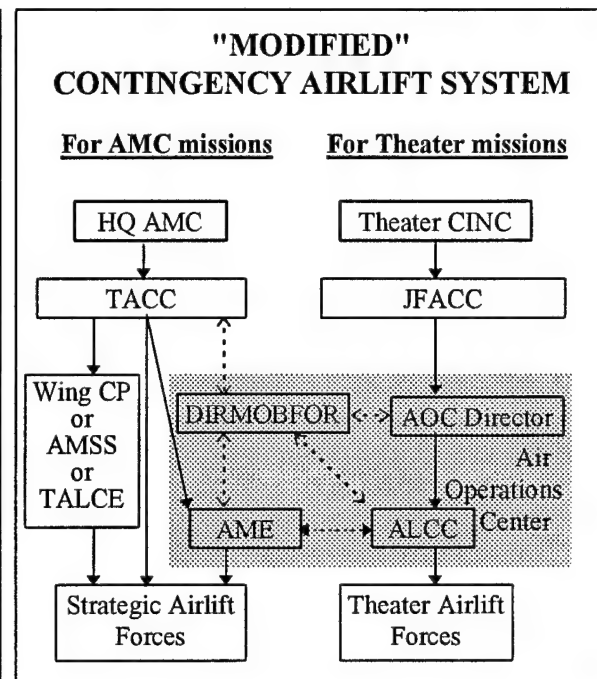


Figure 5

The "Modified" Contingency Airlift System as shown in figure 5 involves having the Air Operations Center Director (AOC Director) exercise operational control over theater airlift forces in lieu of the DIRMOBFOR.⁸⁴ This clear-cut separation of strategic and tactical airlift forces would appropriately give the theater commander better control of his legitimate resources while placing the DIRMOBFOR in more of an advisory position.⁸⁵

This proposed airlift command and control arrangement could alleviate many of the theater airlift issues. It also complies with guidance from the draft copy of Joint Publication 3-17, "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations," which states:

AFCCs should normally exercise operational control (OPCON) of common-user theater airlift forces, unless a Joint Forces Air Component Commander (JFACC) is established, then OPCON of the airlift forces should be exercised through the

JFACC. In cases where the assigned JFACC is other than Air Force, the AFCC should supply the personnel with airlift expertise to the Joint Air Operations Center (JAOC) to run the theater airlift operation.⁸⁶

As solutions are formalized regarding the interaction of the major commands, there must be a conscious effort to keep the theater airlift concept uniform in all theaters.

Issue #4: To what degree must theater airlift doctrine be changed?

Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force, has always considered airlift to be part of the force enhancement role.⁸⁷ Volume I of AFM 1-1 devotes only three paragraphs to airlift doctrine, however the emphasis placed on airlift is critical.

Sufficient strategic and theater airlift must be available to respond quickly to worldwide threats and to sustain deployed aerospace and surface forces. . . . Because strategic and theater airlift capacities are finite, the air component commander must recommend priorities for their use. Strategic and theater airlift must be systematically coordinated with each other and with other transportation means to achieve the proper concentration of aerospace and surface forces at the proper time.⁸⁸

It is incumbent upon the strategic and theater airlift communities to insure doctrine is kept current and viable.⁸⁹

In 1988, Air Force Lieutenant Colonel Charles E. Miller published a book entitled "Airlift Doctrine" while a research fellow for the USAF Airpower Research Institute. This 435 page document covers all aspects of strategic and tactical airlift from pre-World War II through Vietnam to the Congressionally Mandated Mobility Study in 1986.⁹⁰ But more specific *theater* airlift doctrine is still needed in print.

The most recent USAF doctrine manual regarding theater airlift was published in 1966. Despite several avionics and navigational equipment upgrades to the aircraft, the basic principles regarding resupply tactics and techniques still apply. The following section from that manual,

AFM 2-4, "Tactical Airlift", illustrates how important basic command and control concepts are to theater airlift.

Air Force tactical airlift is required for continuous employment in support of the area-wide objectives of joint force commands and must, therefore, be included organizationally as an integral part of the joint air/ground combat teams. Through this command arrangement, the essential joint force experience and highly specialized tactical airlift skills are available to meet the fluctuating demands of military operations within the narrow limits of time and space allowed by the everchanging combat situation. This integration of tactical airlift with other Air Force tactical air elements provides the joint force command with a complete, responsive air resource package capable of functioning in a wide range of combat intensities, thereby obviating the need for costly duplication of capabilities by other services. In the management of tactical airlift, maximum advantage of capabilities and maximum effectiveness in a combat environment are realized by employing the basic principles of centralized control and decentralized execution.⁹¹

In their book "Making Strategy," Colonel Dennis M. Drew and Dr Donald M. Snow provide the following perspective on military doctrine:

Military doctrine is what we believe about the best way to conduct military affairs. . . . Unfortunately, not all past experience is relevant to the present (not to mention the future), and there is no guarantee that what is relevant today will remain relevant in the future. Thus, doctrine is a constantly maturing and evolving thing.⁹²

Theater airlift doctrine does and should evolve with time. But because the Vietnam War was the most recent conflict that provided such a complete spectrum of aerial resupply options, most of the lessons learned in that era are still a valid part of doctrine. The Persian Gulf War also provided some impetus for change regarding tactical airland missions, but the tactical airdrop employment of the C-130s in that conflict was generally quite limited due to the nature of the war. It is also critical to remember that these doctrinal principles apply in peacetime operational missions, training scenarios, contingency operations, and as an extension of national policy objectives in the form of humanitarian relief efforts.

CHAPTER IV

RECOMMENDATIONS

Tactical resupply by today's theater airlift aircraft can be a tremendous force enhancer if employed properly. It is imperative that commanders of every service and the customers of the resupply effort understand and recognize the need for an efficient theater airlift system.

The strategic airlift system managed by AMC has evolved over the years into a tremendously efficient system. Meanwhile, the *theater* airlift management system has become the weak link in the "warehouse to soldier" logistics concept. It is time for each theater to invest the resources, money, and manpower to construct an airlift system which complements the AMC concept and reliably completes the air logistics bridge.

There are three areas in which changes should be made regarding theater airlift: 1) establish a deployable "enhanced" Airlift Control Element (ALCE) in each theater, 2) embrace and implement the "seamless" logistics system concept, and 3) redevelop theater airlift doctrine to complement the post-Cold War strategy of our armed forces. Incorporation of these recommendations would enable theaters to realize an appropriate, realistic goal: the development of a responsive, reliable, and efficient theater airlift.

Establishment of "Enhanced" Deployable Airlift Control Elements (ALCEs)

The individual theaters desperately need their own version of AMC's deployable TALCE to adequately handle theater airlift for contingencies, operations-other-than-war, and peacetime operations. This could mean establishment of an "enhanced" ALCE comprised of a command and control element, a maintenance repair team (MRT), a mobile aerial port team, and a combat

control team (CCT). Any or all components of this "enhanced" ALCE could be deployed as the situation dictates.

A similar concept was originally proposed by HQ ACC/DOL for that theater command in 1994.⁹³ In that proposal, each numbered Air Force (NAF) would consolidate airlift staff positions into one office on the NAF staff. This office would not only become the airlift "nucleus" within the NAFs, but also serve as deployable "force modules" which could rapidly respond to a variety of situations and provide the core staff for an ALCC in a contingency.⁹⁴ Overall, this concept was essentially like AMC's AMOG organizational structure and mission orientation except tailored to meet ACC's unique situation.

An alternative solution to responsive theater airlift management is to "earmark" theater airlift management assets at existing locations, give each component a mobility requirement, and assemble each needed component to form an "enhanced" ALCE when required. If the capability to build two "enhanced" ALCEs was established within ACC, and the capability to build a single "enhanced" ALCE was established in both PACAF and USAFE, the theaters would be able to support themselves throughout the spectrum of military involvement. More importantly, it would finally allow the theaters to be completely self-supportive for theater airlift without relying on AMC for assistance in practically every circumstance.

The individual pieces already exist within each theater. They only need to be packaged in a more applicable manner. This arrangement would, to some degree, be redundant with AMC's current capabilities. However, one must keep in mind that the decision to move theater airlift back to the theater commander was intentional. For theaters to appropriately utilize a theater airlift capability, the deployable support concept must be included. Therefore redundancy is appropriate in this circumstance since it increases the overall flexibility of the U.S. military.

Finally, with the recent full operational capability of the C-17, the theaters may need to support C-17 strategic airlift missions directly at the forward operating locations (FOLs). To reiterate, AMC would normally position its TALCE personnel at the theater's main operating base (MOB), not at a FOL with a short runway. Therefore each theater should be able to quickly and effortlessly position its own assets at a FOL to support theater as well as strategic airlift.

Embrace the "seamless" logistics system concept and implement it in each theater

The advent of the C-17 has also made the "seamless" logistics concept more attainable from the sheer fact that it can fly directly into a FOL and skip the logistical cargo transfers that would have been required at the theater's MOB. If the theater can't manage receipt of this cargo at the FOL, this aspect of the "seamless" system cannot become a reality. Consequently, the theaters must join AMC and the logistics community in their quest and acquire the appropriate computer systems, material handling equipment, and computer network equipment.

Commercial air carriers such as Federal Express and United Parcel Service have shown that rapid, reliable air cargo delivery and follow-on surface (vehicle) delivery is possible today with the right infrastructure in place. There will certainly be a budgetary price to pay in order to acquire the bar code computer programs, scanners, digital computer and satellite technology. Yet those technologies are already available and United States Transportation Command (USTRANSCOM) has long term plans to acquire and implement those processes.⁹⁵ The goal: to have every logistical item traced from the warehouse through the mobility system (including theater airlift) to the soldier's hand.⁹⁶ This system would greatly enhance applicability of the Joint Operations Planning and Execution System (JOPES), the unit mobility documents, and the time-phased force deployment listings (TPFDLs).⁹⁷

Another component of the seamless logistics system is Two Level Maintenance (2LM). This concept reduces the number of spare parts within base level supply warehouses by relying more heavily on time-certain air delivery and return of critical spare parts.⁹⁸ Certainly the 2LM concept is more applicable in peacetime than in contingencies. However in each situation, it is ultimately the responsibility of the *theater* to insure timely (very often "next-day") deliveries.⁹⁹

Each theater needs to establish a more reliable theater distribution system. Embracing and implementing all aspects of "seamless" logistics would greatly enhance the force projection capability of our nation.

Update and revise theater airlift doctrine to blend with the post-Cold War strategy

The theater airlift community itself is perhaps the most negligent party for failing to update its own doctrine. However the movement of the C-130s to the theater commands has shown why the need for current doctrine is so critical today: the theater airlift community could deteriorate if something is not done now.

As the adjustments to the post-Cold War world continue to be made, several issues come into play which also relate to theater airlift doctrine. How much intratheater airlift is needed for future contingencies? Is that requirement the same for operations other than war? Should 67% of the C-130 fleet be in the Air Reserve Forces? How should the C-17 be managed once it is within the theater? Should some C-17 aircraft be "CHOPPED" to the Theater CINC during contingencies?

As these critical questions are answered, doctrinal revisionists must remember that theater airlift doctrine must not only correlate to the current world situation, but also consolidate all the experience gained from events since that 1966 version of AFM 2-4. Lessons learned from Vietnam, Grenada, Panama, the Persian Gulf, Rwanda, Bosnia, Haiti, and dozens of humanitarian missions must also serve as a foundation of revised theater airlift doctrine.

The Joint Staff is currently developing new joint guidance in every arena, including theater airlift. The new JCS publications on "Joint Doctrine for the Defense Transportation System" and "Joint Tactics, Techniques, and Procedures for Theater Airlift Operations" are solid steps toward a true unity of effort between the services. However, the final step toward closing this doctrinal loop is for the Air Force to publish an updated theater airlift doctrine.

The existing theater airlift knowledge base and range of experience is quite extensive. The time for doctrinal revision by the theater airlifters is undoubtedly now.

CHAPTER V

CONCLUSIONS

"A National Security Strategy of Engagement and Enlargement," published by the White House in February 1995, addresses the importance of maintaining a strong defense capability in today's environment. As this document is analyzed, one can readily see how the tasks identified within this strategy accentuate an increasing need for effective theater airlift.

U.S. military capabilities are critical to the success of our nation. This nation has unparalleled military capabilities: the United States is the only nation capable of conducting large-scale and effective military operations far beyond its borders. . . . To protect and advance U.S. interests in the face of the dangers and opportunities outlined earlier, the United States must deploy robust and flexible military forces that can accomplish a variety of tasks:

- Deterring and Defeating Aggression in Major Conflicts. . . .
- Providing a Credible Overseas Presence. . . .
- Countering Weapons of Mass Destruction. . . .
- Contributing to Multinational Peace Operations. . . .
- Supporting Counterterrorism Efforts and other National Security Objectives. . . .

To meet all of these requirements successfully, our forces must be capable of responding quickly and operating effectively. That is, they must be ready to fight and win.¹⁰⁰

As the focus of our national security interests becomes more regionalized, the capabilities within the *theater* become paramount to successful engagements. However, the trend for theater airlift capabilities has recently shifted short of the desired levels and failed to adjust to the realities of today's national security environment. Is theater airlift realizing its full potential? Can theater airlift successfully fulfill its mission and directed tasks? Are our theater airlift forces capable of "responding quickly and operating effectively?" Do our current theater airlift capabilities adequately support the National Security Strategy of Engagement and Enlargement?

Critical issues such as these have surfaced and challenge the theaters to take a closer look at what theater airlift can really do for them. Skillfully addressing airlift topics such as command and control capabilities, en route support capabilities, major command relationships, and theater airlift doctrine are paramount in sustaining our nation's ability not only to fight and win wars, but also to provide support throughout the spectrum of operations other than war.

Theater airlift is not currently realizing its full potential, but there are avenues the Air Force can take to bring it up to speed and once again make it a highly productive part of the mobility and logistics system. The establishment of "enhanced" ALCEs, implementation of the "seamless" logistics system concept, and revision of theater airlift doctrine are three essential steps for this progression.

GLOSSARY

AB	Air Base
ACC	Air Combat Command
ADSF	Aerial Delivery Support Flight
AFB	Air Force Base
AFCC	Air Force Component Commander
AFM	Air Force Manual
AFRES	Air Force Reserve
ALCC	Airlift Coordination Cell
ALCE	Airlift Control Element
AMC	Air Mobility Command
AME	Air Mobility Element
AMOG	Air Mobility Operations Group
AMSS	Air Mobility Support Squadron
ANG	Air National Guard
AOC	Air Operations Center
CAPS	Consolidated Aerial Port System
CCT	Combat Control Team
CDS	Container Delivery System
CHOP	Change of Operational Control
CINC	Commander-in-Chief

CP	Command Post
CRAF	Civil Reserve Air Fleet
DIRMOBFOR	Director of Mobility Forces
DoD	Department of Defense
FOL	Forward Operating Location
GDSS	Global Decision Support System
HE	Heavy Equipment
HQ	Headquarters
IOC	Initial Operating Capability
JAOC	Joint Air Operations Center
JCS	Joint Chiefs of Staff
JFACC	Joint Forces Air Component Commander
JMC	Joint Movement Center
JOPEs	Joint Operations Planning and Execution System
MAC	Military Airlift Command
MAJCOM	Major Command
MHE	Material Handling Equipment
MOB	Main Operating Base
MRT	Maintenance Repair Team
NAF	Numbered Air Force
OPCON	Operational Control
PACAF	Pacific Air Forces

SOLL	Special Operations Low Level
STOL	Short Takeoff and Landing
TACC	Tanker Airlift Control Center
TALCE	Tanker Airlift Control Element
TALO	Theater Airlift Liaison Officer
TPFDL	Time-Phased Force Deployment Listing
UN	United Nations
USAF	United States Air Force
USAFE	United States Air Forces Europe
USCINCTRANS	United States Commander-in-Chief Transportation Command
USTRANSCOM	United States Transportation Command
2LM	Two-Level Maintenance

NOTES

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⁹⁸ Colonel Arthur B. Morrill, "Lean Logistics: Its Time Has Come!" Air Force Journal of Logistics, Spring-Summer 1994, 8.

⁹⁹ Ibid.

¹⁰⁰ President William J. Clinton, A National Security Policy of Engagement and Enlargement, (Washington: The White House, February 1995) 8-9.

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